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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/671,262 | 09/25/2003 | James M. Walker | DQIP-144 | 6605 |

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| ART UNIT | PAPER NUMBER |
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3676

DATE MAILED: 02/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/671,262

Applicant(s)

WALKER ET AL.

Examiner

Alison K. Pickard

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 November 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4-8,10-14,16,17,20-24,26-28,30-33 and 35-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 35-40 is/are allowed.
- 6) ☒ Claim(s) 1,4-8,10-14,16,17,20-24,26-28 and 30-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 17, 20-24, 26, and 27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 17, line 4, "the metal sealing ring" lacks antecedent basis.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 28 and 30-33 are rejected under 35 U.S.C. 102(b) as being anticipated by Stephenson (4,635,967).

Stephenson discloses a metal sealing ring comprising a steel body 32 with a bore, a first frusto-conical outer sealing surface 42, a second frusto-conical sealing surface 42, and first and second corrosion-resistant alloy inlays. The sealing ring is capable of sealing against respective inner surfaces (having inlays) of a first and a second body.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 4-6, 11, 12, 17, 20-22, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stephenson in view of Applicants' APA.

Stephenson discloses a method of sealing and a metal sealing ring between first and second tubular members each having bores and conical inner sealing surfaces that are urged together to engage the sealing ring. The sealing ring comprising a steel body 32 with a bore, a first frusto-conical outer sealing surface 42, a second frusto-conical sealing surface 42, and first and second corrosion-resistant alloy inlays. Although Stephenson discloses the body can be made from an alloy, Stephenson does not specifically state carbon steel or low alloy steel having the claimed expansion coefficient. Applicants admit that it is known to form a sealing body from carbon steel or low alloy steel having the claimed coefficient of expansion to provide a fluid tight seal under high pressure applications. Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to make the body from carbon steel or low alloy steel as taught by Applicants to ensure a fluid tight seal under high pressure applications.

Regarding claims 4-6 and 20-22, Stephenson does not disclose the inlay thickness required by the claims. Using such dimensions is considered a design choice. It is not considered inventive to discover the workable or optimum ranges by routine experimentation. See *In re Aller*, 105 USPQ 233, 235 (CCPA 1955). Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to make the inlay thickness in the ranges required by the claims as a matter of choice in design.

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7. Claims 7, 8, 13, 14, 23, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stephenson in view of APA as applied to claims 1, 12, and 17 above, and further in view of Tillman.

Stephenson does not disclose a coating over the inlays. Tillman teaches a sealing ring having conical sealing surfaces with inlays 31 and 32. Tillman teaches coating the surfaces and inlays with a corrosion-resistant material such as silver or a fluoropolymer to provide a tighter joint (see col. 2, lines 63-67). Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to make coat the inlays with the coating as taught by Tillman to provide a tighter joint and a better seal.

8. Claims 10, 16, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stephenson in view of APA as applied to claims 1, 12, and 17 above, and further in view of Sweeney (6,722,426).

Stephenson does not disclose that at least one of the inner sealing surfaces includes a back-up surface adjacent a primary surface that seals with at least one of the outer sealing surfaces. Sweeney (Fig. 4) teaches a sealing ring between first and second tubular members each having inner sealing surfaces that engage the sealing ring. Sweeney teaches forming one of the inner surfaces with a primary 19 surface and a back-up surface 21 that engages with an outer sealing surface of the ring in case the primary surface is damaged. Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to use the back-up surface taught by Sweeney to ensure a seal even when the sealing surface of a tubular member is damaged.

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Allowable Subject Matter

9. Claims 35-40 are allowed.

Response to Arguments

10. Applicant's arguments filed 11-15-04 have been fully considered but they are not persuasive.

Applicant's argument that Stephenson is not concerned with problems induced by thermal expansion is unpersuasive. The fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985). In this case, Stephenson discloses that the ring is made of a corrosion resistant alloy. Applicant admits that carbon steel is a corrosion resistant alloy suitable for sealing under high pressure.

The inlay dimensions are maintained as a design choice since no criticality has been associated with these dimensions.

Regarding Tillman, Tillman is being used for its teaching of a coating to form an improved joint. The fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985). Further, corrosion resistance and reduced friction are inherent features of silver and fluoropolymer.

Conclusion

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alison K. Pickard whose telephone number is 703-305-0882. The examiner can normally be reached on M-F (10-7:30), with alternate Friday's off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Heather Shackelford can be reached on 703-308-2978. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Alison K. Pickard
Primary Examiner
Art Unit 3676

AP